Theorem Fig

$$az + bz^2 + cz^3 + dz^4 + ez^5 + fz^6 + gz^7 -$$

$$= a^m z^m + \frac{m}{1} a^{m-1} b z^{m+1} + \frac{m}{1} \times \frac{m-1}{2} a^{m-2} b^2 z^{m+2} + \frac{m}{1} \times \frac{m-1}{2} \times \frac{m-2}{3} a^{m-3}$$
$$+ \frac{m}{1} a^{m-1} c + \frac{m}{1} \times \frac{m-1}{1} a^{m-2}$$
$$+ \frac{m}{1} a^{m-1}$$

$$+ \frac{m}{1} \times \frac{m-1}{2} \times \frac{m-2}{3} \times \frac{m-3}{4} \times \frac{m-4}{5} a^{m-5} b^5 z^{m+5}$$
$$+ \frac{m}{1} \times \frac{m-1}{2} \times \frac{m-2}{3} \times \frac{m-3}{4} \times \frac{m-4}{5} \times$$
$$+ \frac{m}{1} \times \frac{m-1}{2} \times \frac{m-2}{3} \times \frac{m-3}{1} a^{m-4} b^3 c + \frac{m}{1} \times \frac{m-1}{2} \times \frac{m-2}{3} \times \frac{m-3}{4} \times$$
$$+ \frac{m}{1} \times \frac{m-1}{2} \times \frac{m-2}{1} a^{m-3} b^2 d + \frac{m}{1} \times \frac{m-1}{2} \times \frac{m-2}{3} \times$$
$$+ \frac{m}{1} \times \frac{m-1}{1} \times \frac{m-2}{2} a^{m-3} b c^2 + \frac{m}{1} \times \frac{m-1}{2} \times \frac{m-2}{1} \times$$
$$+ \frac{m}{1} \times \frac{m-1}{1} a^{m-2} b e + \frac{m}{1} \times \frac{m-1}{2} \times$$
$$+ \frac{m}{1} \times \frac{m-1}{1} a^{m-2} c d + \frac{m}{1} \times \frac{m-1}{1} \times$$
$$+ \frac{m}{1} a^{m-1} f + \frac{m}{1} \times$$
$$+ \frac{m}{1} \times \frac{m-1}{2} \times$$
$$+ \frac{m}{1} \times$$
$$+ \frac{m}{1} \times$$
$$+$$

4 3 2

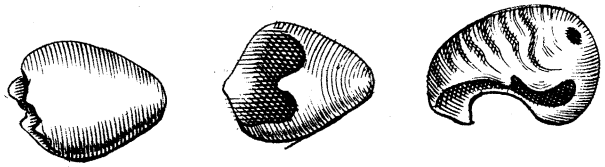

Fig. 1

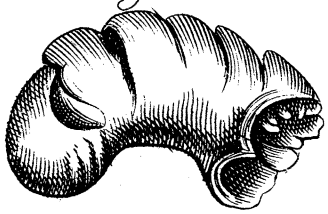

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Fig. 5. Transact: N.° 230.

$$\overline{gz^7 + hz^8 + iz^9 \;\&c}\,^{m} =$$

$$a^{m-3}b^3z^{m+3} + \frac{m}{1}\times\frac{m-1}{2}\times\frac{m-2}{3}\times\frac{m-3}{4}\,a^{m-4}b^4z^{m+4}$$

$$z^{m-2}bc + \frac{m}{1}\times\frac{m-1}{2}\times\frac{m-2}{1}\,a^{m-3}b^2c$$

$$z^{m-1}d + \frac{m}{1}\times\frac{m-1}{1}\,a^{m-2}bd$$

$$+ \frac{m}{1}\times\frac{m-1}{2}\,a^{m-2}c^2$$

$$+ \frac{m}{1}\,a^{m-1}e$$

$$\frac{i-4}{5}\times\frac{m-5}{6}\,a^{m-6}b^6z^{m+6}\;\&c$$

$$\frac{i-3}{4}\times\frac{m-4}{1}\,a^{m-5}b^4c$$

$$\frac{i-2}{3}\times\frac{m-3}{1}\,a^{m-4}b^3d$$

$$\frac{i-2}{1}\times\frac{m-3}{2}\,a^{m-4}b^2c^2$$

$$\frac{i-1}{2}\times\frac{m-2}{1}\,a^{m-3}b^2e$$

$$\frac{i-1}{1}\times\frac{m-2}{1}\,a^{m-3}bcd$$

$$\frac{m}{1}\times\frac{m-1}{1}\,a^{m-2}bf$$

$$\frac{n-1}{2}\times\frac{m-2}{3}\,a^{m-3}c^3$$

$$\frac{m}{1}\times\frac{m-1}{1}\,a^{m-2}ce$$

$$\frac{m}{1}\times\frac{m-1}{2}\,a^{m-2}d^2$$

$$+ \frac{m}{1}\,a^{m-1}g$$

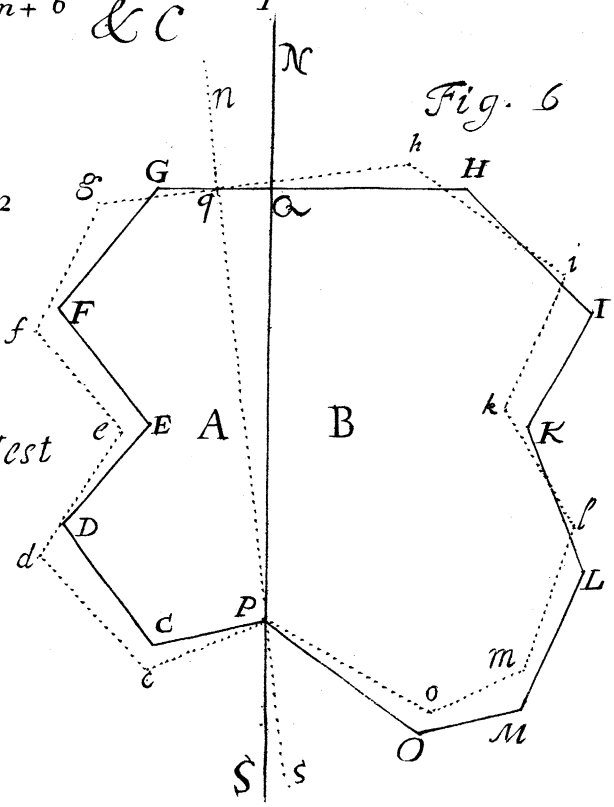

Fig. 6

West

V. *Extract of a Letter from Mr.* de Vallemont, *&c. concerning a ſmall Egg being found within an ordinary one, taken from the* Journal des Savans *of the 7th of* Jan. 1695.

I. *An Account of one who had horny excreſcencies or extraordinary large Nails on his Fingers and Toes, by Mr.* Locke.

24 May 1678.

AT the Hoſpital in *Paris*, called *la Charité*, I ſaw a young Lad of between Nineteen and Twenty years old, who had upon the ends of all his Fingers, as it were Horns grew out; one whereof, upon the middle Finger of his right Hand, was 310 *grys* long, and 130 *grys* circumference, of which a good piece was broke off in my preſence of above 150 *grys* long; as alſo a ſhorter piece off from the Fore-finger of the ſame hand, and another leſs piece off the annularis of the left Hand. He told me he had one formerly on his Thumb, much bigger and longer than this of the middle Finger before-mentioned, but it was now very ſhort, having been either taken off, or dropt of, I know not whether; for on all the reſt of his Fingers, on both his Hands, there were the like: only on ſome of them they had been taken off by the Chirurgions ſince he came into the Hoſpital; but in thoſe that had not been touched, there was a great inequality in their length. Some of them beginning to ſprout much ſince the other. The like grew alſo

ſo upon the Toes of his Feet, only excepting the two ſmall Toes of each foot, where there were now none; and upon three of them there never had been: Upon the fourth, *i. e.* the little Toe of the right Foot, as I remember, there had been one, but it having fallen off about ſix Months ſince: It came no more, but left the Nail very little different from natural. This horny Subſtance grew not out of the end of the Fingers, but was as it were a thickening of the Nail, which inſtead of growing out in length increaſed in thickneſs, but roſe not up ſtrait in a perpendicular Line to the Finger; but as it augmented bended forwards, and ſo grew ſomewhat into the ſhape of a Bird's Claw, but that it was not taper and ſharp, like that, but blunt at the end, and almoſt of the ſame bigneſs all along, and full of pretty deep Chaps in the convex part, but the concave was without any. He had no ſenſe in the horny part itſelf, for I ſaw the pieces before-mentioned broken off by wreſting ſeveral ways; but he complained of pain when bending the upper part, the part that joyned on to his Finger was not held very firm and ſteady, and thoſe of his feet were ſo tender, that he complained upon very gentle touching of them: but the ſenſibility was not in the horny excreſcence, but in the part where it joyns on to the Fleſh, *i. e.* where the Nail did formerly grow.

There is alſo in ſeveral parts of the back of his Hands horny excreſcencies, ſome pretty broad, and others leſs, but none riſing much above the Skin; but they look there, thoſe that are broad, like flat, but very broad Warts; but to the touch they feel much harder.

This

This Diſeaſe began upon this Lad about three years ſince, after having had the Small Pox, which is the only thing to which he imputes it.

N. B. A *gry* is the one thouſandth part of a Philoſophical *Foot*, which is the third part of a Pendulum of Seconds; ſo that 310 *grys* are $\frac{310}{1000}$ of a Philoſophical Foot, which is a little more than four Inches of our *Engliſh* Foot.

Monday, May 30. 1678.

I ſaw again at the *Charité* the Boy with Horns on his Fingers; he is of *Brie*, and between Nineteen and Twenty years old. His Food was the uſual Food of the Country: He has been Purged twice ſince he came into the *Charité*; and ſome of the Horns of his Fingers begin to looſen at the Root.

Fig. 1. Shows the Excreſcence or Nail of the middle Finger of the right hand.

Fig. 2. That of the Forefinger of the ſame hand.

Fig. 3 and 4. Show that of the *annularis* of the left Hand in two Poſitions.

Theorem Fig. 5. Transact: N.° 230.

$$\overline{az + bz^2 + cz^3 + dz^4 + ez^5 + fz^6 + gz^7 + hz^8 + iz^9 \;\&C}^{\,m} =$$

$$= a^m z^m + \tfrac{m}{1} a^{m-1} b z^{m+1} + \tfrac{m}{1} \times \tfrac{m-1}{2} a^{m-2} b^2 z^{m+2} + \tfrac{m}{1} a^{m-1} c$$

$$+ \tfrac{m}{1} \times \tfrac{m-1}{2} \times \tfrac{m-2}{3} a^{m-3} b^3 z^{m+3} + \tfrac{m}{1} \times \tfrac{m-1}{1} a^{m-2} bc + \tfrac{m}{1} a^{m-1} d$$

$$+ \tfrac{m}{1} \times \tfrac{m-1}{2} \times \tfrac{m-2}{3} \times \tfrac{m-3}{4} a^{m-4} b^4 z^{m+4} + \tfrac{m}{1} \times \tfrac{m-1}{2} \times \tfrac{m-2}{1} a^{m-3} b^2 c + \tfrac{m}{1} \times \tfrac{m-1}{1} a^{m-2} bd + \tfrac{m}{1} \times \tfrac{m-1}{2} a^{m-2} c^2 + \tfrac{m}{1} a^{m-1} e$$

$$+ \tfrac{m}{1} \times \tfrac{m-1}{2} \times \tfrac{m-2}{3} \times \tfrac{m-3}{4} \times \tfrac{m-4}{5} a^{m-5} b^5 z^{m+5} + \tfrac{m}{1} \times \tfrac{m-1}{2} \times \tfrac{m-2}{3} \times \tfrac{m-3}{1} a^{m-4} b^3 c + \tfrac{m}{1} \times \tfrac{m-1}{2} \times \tfrac{m-2}{1} a^{m-3} b^2 d + \tfrac{m}{1} \times \tfrac{m-1}{1} \times \tfrac{m-2}{2} a^{m-3} bc^2 + \tfrac{m}{1} \times \tfrac{m-1}{1} a^{m-2} be + \tfrac{m}{1} \times \tfrac{m-1}{1} a^{m-2} cd + \tfrac{m}{1} a^{m-1} f$$

$$+ \tfrac{m}{1} \times \tfrac{m-1}{2} \times \tfrac{m-2}{3} \times \tfrac{m-3}{4} \times \tfrac{m-4}{5} \times \tfrac{m-5}{6} a^{m-6} b^6 z^{m+6} + \tfrac{m}{1} \times \tfrac{m-1}{2} \times \tfrac{m-2}{3} \times \tfrac{m-3}{4} \times \tfrac{m-4}{1} a^{m-5} b^4 c + \tfrac{m}{1} \times \tfrac{m-1}{2} \times \tfrac{m-2}{3} \times \tfrac{m-3}{1} a^{m-4} b^3 d + \tfrac{m}{1} \times \tfrac{m-1}{2} \times \tfrac{m-2}{1} \times \tfrac{m-3}{2} a^{m-4} b^2 c^2 + \tfrac{m}{1} \times \tfrac{m-1}{2} \times \tfrac{m-2}{1} a^{m-3} b^2 e + \tfrac{m}{1} \times \tfrac{m-1}{1} \times \tfrac{m-2}{1} a^{m-3} bcd + \tfrac{m}{1} \times \tfrac{m-1}{1} a^{m-2} bf + \tfrac{m}{1} \times \tfrac{m-1}{2} \times \tfrac{m-2}{3} a^{m-3} c^3 + \tfrac{m}{1} \times \tfrac{m-1}{1} a^{m-2} ce + \tfrac{m}{1} \times \tfrac{m-1}{2} a^{m-2} d^2 + \tfrac{m}{1} a^{m-1} g$$

$\&C$

Fig. 1
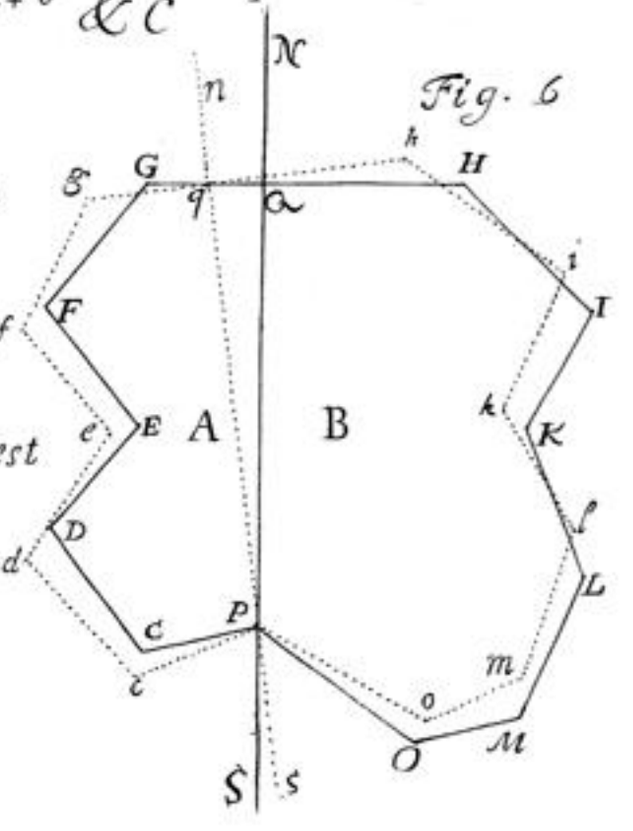
Fig. 6